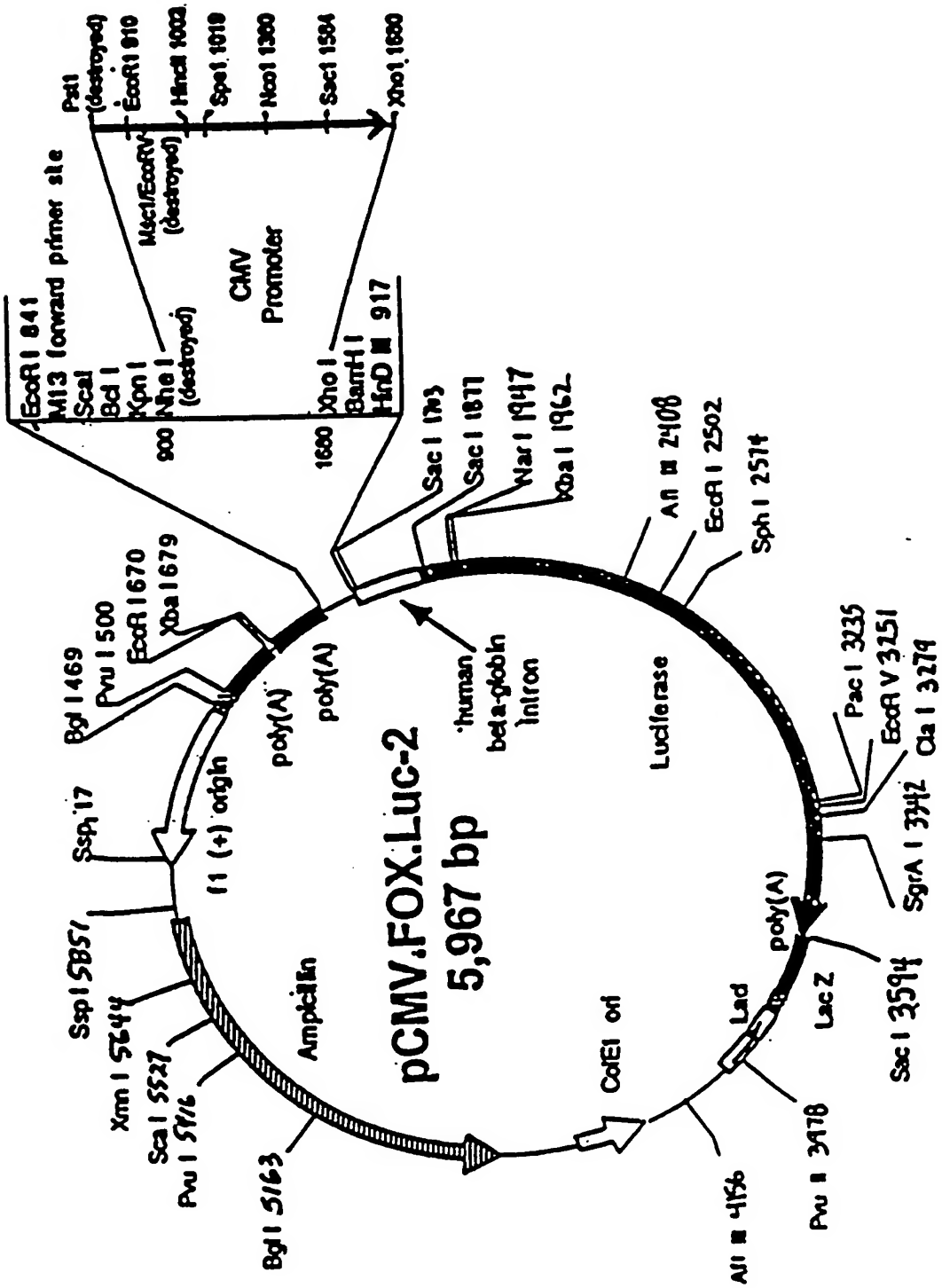
pCMV.FOX.Luc-2
5,967 bp
CMV Promoter
human beta-globin Intron
Luciferase
poly(A)
poly(A)
poly(A)
f1 (+) origin
Ampicillin
CoIE1 ori
lacI
lacZ
EcoR I 841
M13 forward primer site
ScaI
Bcl I
Kpn I
Nhe I (destroyed)
800
Pst I (destroyed)
EcoR I 910
MscI/EcoRV (destroyed)
Hind III 1003
Spe I 1018
Not I 1300
Sac I 1534
Xho I 1600
1600
Xho I
BamH I
HinD III 917
Sac I 1793
Sac I 1811
Nar I 1947
Xba I 1962
Afl II 2408
EcoR I 2502
Sph I 2514
Pac I 3235
EcoR V 3251
Cla I 3279
SgrA I 3342
Sac I 3594
Pvu II 3978
Afl II 4156
Bgl I 5163
Pvu I 5716
Sca I 5527
Xmn I 5644
Ssp I 5851
Ssp I 17
Bgl I 469
Pvu I 500
EcoR I 1670
Xba I 1679

FIGURE 1

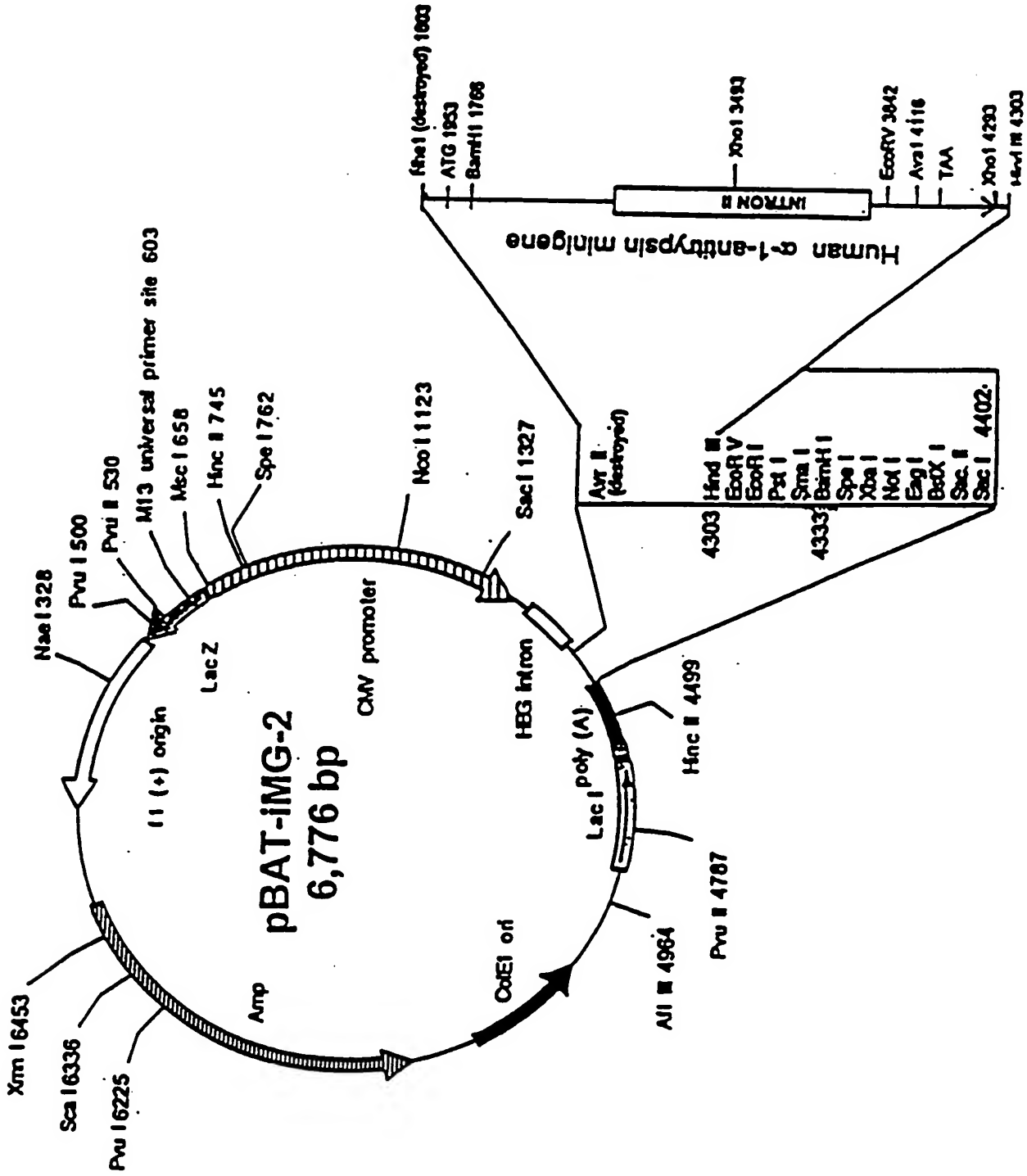
pBAT-iMG-2
6,776 bp
Human α-1-antitrypsin minigene
INTRON II
Nhe I (destroyed) 1803
ATG 1853
BamH I 1768
Xho I 3493
EcoRV 3842
Ava I 4116
TAA
Xho I 4293
Hind III 4303
Avr II (destroyed)
Hind III
EcoR V
EcoR I
Pst I
Sma I
BamH I
Spe I
Xba I
Not I
Bgl I
BstX I
Sac II
Sac I
4303
4333
4402
Nco I 1123
Sac I 1327
Spe I 762
Hnc II 745
Msc I 658
M13 universal primer site 603
Pvu II 530
Pvu I 500
Nae I 328
Xmn I 6453
Sca I 6336
Pvu I 6225
Amp
CoEI ori
f1 (+) origin
LacZ
CMV promoter
HBG Intron
Lac I
poly (A)
Hnc II 4499
Pvu II 4767
All II 4964

FIGURE 2

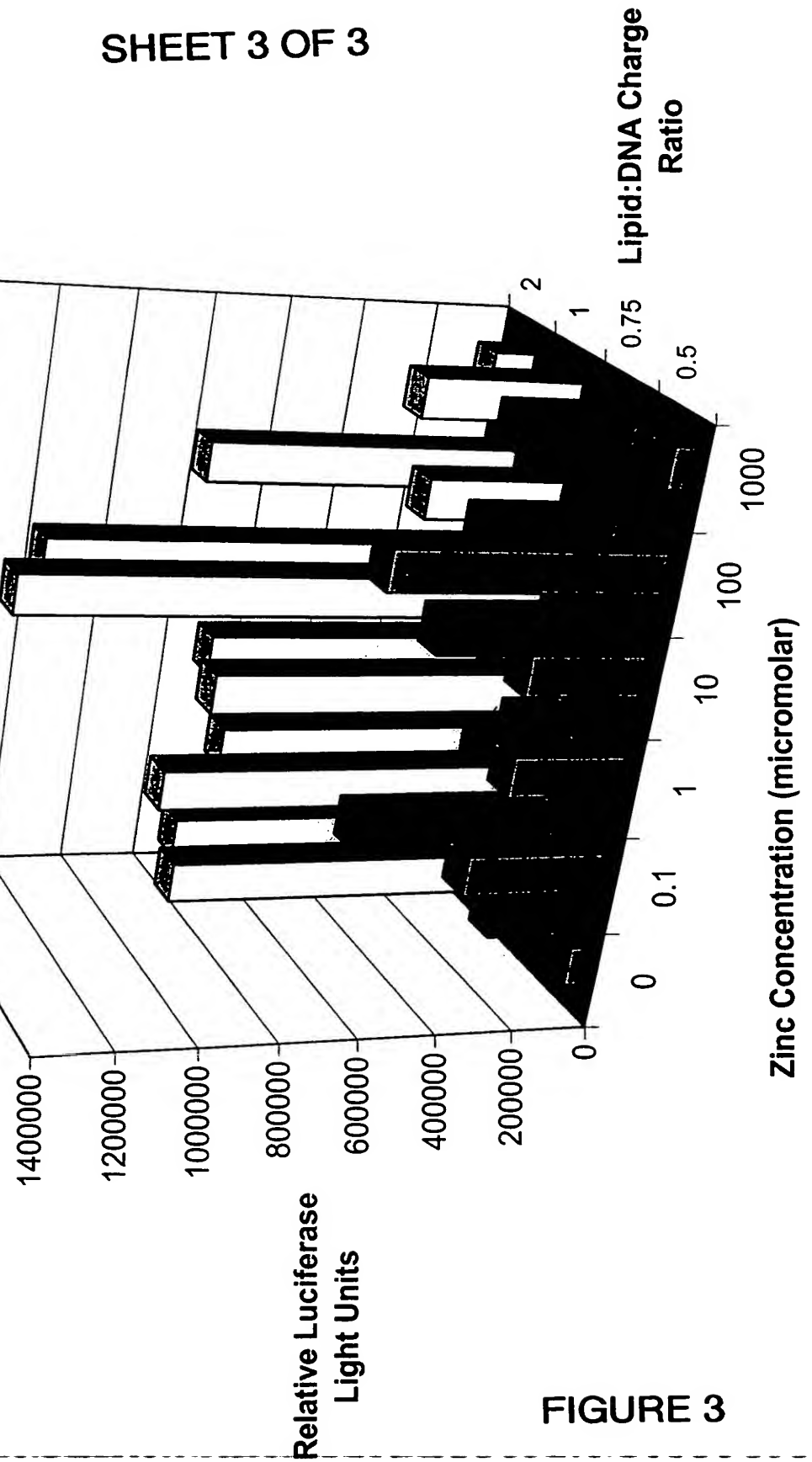
Relative Luciferase Light Units
1400000
1200000
1000000
800000
600000
400000
200000
0
Zinc Concentration (micromolar)
0
0.1
1
10
100
1000
Lipid:DNA Charge Ratio
0.5
0.75
1
2

FIGURE 3